

BEFORE THE
IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE INVESTIGATION)
OF THE CONTINUED REASONABLENESS) CASE NO. GNR-E-02-1
OF CURRENT SIZE LIMITATIONS FOR)
PURPA QF PUBLISHED RATE ELIGIBILITY)
(I.E., 1 MW) AND RESTRICTIONS ON)
CONTRACT LENGTH (I.E., 5 YEARS).)
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DIRECT TESTIMONY OF RICK STERLING
IDAHO PUBLIC UTILITIES COMMISSION

JULY 22, 2002

1 Q. Please state your name and business address for
2 the record.

3 A. My name is Rick Sterling. My business address
4 is 472 West Washington Street, Boise, Idaho.

5 Q. By whom are you employed and in what capacity?

6 A. I am employed by the Idaho Public Utilities
7 Commission as a Staff engineer.

8 Q. What is your educational and professional
9 background?

10 A. I received a Bachelor of Science degree in
11 Civil Engineering from the University of Idaho in 1981
12 and a Master of Science degree in Civil Engineering from
13 the University of Idaho in 1983. I worked for the Idaho
14 Department of Water Resources from 1983 to 1994. In
15 1988, I became licensed in Idaho as a registered
16 professional Civil Engineer. I began working at the
17 Idaho Public Utilities Commission in 1994. My duties at
18 the Commission include analysis of utility applications
19 and customer petitions.

20 Q. What is the purpose of your testimony in this
21 proceeding?

22 A. The purpose of my testimony is to recommend
23 changes in the variables used to compute avoided costs
24 for Idaho Power, Avista and PacifiCorp. I am also
25 recommending two changes in the computation methods

1 employed by the spreadsheet used to develop avoided
2 costs.

3 Q. Before discussing your recommended changes in
4 variables and computation methods, will you please
5 briefly describe how avoided cost rates are determined?

6 A. Avoided cost rates are determined using a
7 spreadsheet that is intended to replicate the costs of
8 generating energy using a gas-fired combined cycle
9 combustion turbine, i.e., the surrogate avoided resource
10 (SAR) adopted by the Commission in 1996. There are four
11 primary components to the cost: capital costs, fixed
12 O & M, variable O & M, and fuel costs. Exhibit No. 1
13 depicts each of these four components. Capital costs are
14 based on the initial plant construction cost amortized
15 over the 30-year life of the plant at the utility's
16 weighted cost of capital. O & M costs are based on an
17 initial year estimate that is escalated at a fixed rate
18 over the life of the plant. Fuel costs are handled
19 differently depending on whether "fueled" or "non-fueled"
20 rates are being computed. For "fueled" rates, the fuel
21 cost component is adjusted on July 1st each year and is
22 based on the average monthly gas price during the
23 previous calendar year. Thus, for "fueled" rates, the
24 fuel cost component of the avoided cost rates changes
25 annually and tracks gas prices. For "non-fueled" rates,

1 the same initial year gas price is established, again
2 based on the average monthly gas price in the previous
3 calendar year, but the starting gas price is escalated at
4 a fixed rate over the 30-year plant life. Consequently,
5 for existing contracts with "non-fueled" rates, no
6 ongoing annual adjustment is made based on historical gas
7 prices.

8 Q. Why are you proposing changes in the
9 computation methods used in the avoided cost spreadsheet?

10 A. I am proposing a change in the way in which the
11 fuel cost component is computed for "non-fueled" rates so
12 that a single year of extreme gas prices will not form
13 the basis for the fuel cost component of the avoided cost
14 rate for the entire contract length. Under the current
15 computation method for "non-fueled" rates, once a
16 contract is signed, no further annual gas price
17 adjustments are made. A contract signed in a year when
18 gas prices are high will enjoy the benefit of the high
19 gas price for the duration of the contract. Conversely,
20 a contract signed when gas prices are low will suffer the
21 consequences of the low starting gas price for the entire
22 contract length. Exhibit No. 2 shows the variation in
23 average annual gas prices at Sumas. Exhibit No. 3
24 illustrates how the annual variation in gas price affects
25 the computation of avoided cost rates.

1 Although recognized as a potential problem when
2 the spreadsheet was developed in 1995, Staff did not
3 believe it was a serious problem because only minor
4 volatility in gas prices was anticipated. The recent
5 extreme volatility in gas prices, however, has magnified
6 the effect of starting gas price on the calculation of
7 20-year "non-fueled" rates. I believe that this problem
8 should be corrected.

9 Q. Please describe the changes you are proposing
10 to correct this problem.

11 A. I believe that there are two possible changes
12 that should be considered in computing the fuel cost
13 component. First, a new method needs to be devised to
14 establish a starting fuel price so that the effect of
15 extreme variations in prices does not become permanently
16 embedded in contracts. A single year of very high or low
17 gas prices should not drive the avoided cost rate for a
18 20-year contract. There are many ways this might be
19 done. In Staff's Supplemental Answer to Petitions for
20 Stay, for example, it was suggested that a linear
21 regression be performed to establish a starting gas
22 price. By using multiple years of historic prices, this
23 method moderates annual variations in gas price while
24 recognizing upward trends. Exhibit No. 4 illustrates
25 this method.

1 After further analyzing this method, however, I
2 believe that even more moderation of annual price swings
3 is necessary. Consequently, I am now proposing that a
4 five-year rolling average be used. Under this method, an
5 average of the previous five years average annual gas
6 prices at Sumas would first be computed. Next, I would
7 add an amount of \$0.35 per MMBtu to represent the cost of
8 delivering gas from Sumas to the SAR plant.¹ The
9 resulting total of \$3.19 would then be used in the
10 avoided cost spreadsheet to represent the current year
11 fuel cost. Exhibit No. 5 illustrates this method.

12 I propose that this starting fuel price be
13 computed each year for any new contracts. Once a non-
14 fueled contract has been signed, I propose that the
15 contract rate remain fixed for the duration of the
16 contract as it is now, and not be subject to rate changes
17 due to annual fuel price changes.

18 Q. What other change do you propose in the manner
19 in which fuel costs are computed in the avoided cost
20 spreadsheet?

21 A. In addition to changing the manner in which a

22 ¹ The delivery cost is based on estimates from the
23 Northwest Power Planning Council document *Draft Fuel*
24 *Price Forecasts for the 5th Northwest Conservation and*
25 *Electric Power Plan*, April 25, 2002, Appendix B -
Derivation of Natural Gas Prices by Market Points and
States. I am not proposing that the delivery cost be
updated annually.

1 starting fuel price is established, I propose that the
2 escalation rate applied to the starting fuel price be
3 updated annually for any new contracts. For signed
4 contracts, the fuel cost escalation rate in place at the
5 time of contract execution would remain fixed for the
6 duration of the contract.

7 There are many gas price forecasts available
8 from which to choose. I recommend the DOE/EIA Annual
9 *Energy Outlook* be used because it is updated annually and
10 is readily available without charge or subscription fees.
11 The DOE/EIA Annual *Energy Outlook* forecasts annual gas
12 prices through 2020, however, I propose that a single
13 escalation rate representing the period 2002-2020 be
14 used. The *Annual Energy Outlook* 2000 forecasted gas
15 price escalation for this period is 1.7 percent (See
16 *Annual Energy Outlook* Table 18 Energy Prices by Sector
17 and Source, Mountain). Because this forecasted rate is
18 in real terms (2000 dollars), it must be increased by the
19 general inflation rate of 2.70 percent (See *Annual Energy*
20 *Outlook* Table A20 Macroeconomic Indicators, GDP Chain-
21 Type Price Index, Annual Growth 2000-2020). Thus, the
22 resulting gas price escalation rate that I recommend be
23 used in the spreadsheet is 4.4 percent ($1.7 + 2.7 = 4.4$).

24 I do not recommend the forecasts prepared by
25 DRI-WEFA or GRI because they are not available to the

1 general public at no charge. I also do not recommend the
2 forecast prepared by the Northwest Power Planning Council
3 because, although it is available at no cost, it is not
4 currently updated at regular intervals.

5 Q. Are you proposing any other changes in the
6 computation methods employed in the avoided cost
7 spreadsheet?

8 A. Yes, I also propose that those portions of the
9 spreadsheet related to "first deficit year", "surplus
10 energy cost", and "surplus escalation rate" be abandoned.
11 As I described previously, avoided cost rates prior to a
12 utility's first deficit year have in the past been based
13 on "surplus energy costs." Using today's terminology, we
14 might describe this as basing avoided cost rates on
15 market prices up until the time when the utility needs to
16 begin acquiring new resources. After that, rates are
17 based on the costs of a combined cycle combustion
18 turbine.

19 Although I still believe the rationale is
20 sound, determination of a first deficit year and surplus
21 energy rates is very problematic. I am proposing to
22 abandon this part of the computations for the reasons
23 enumerated below:

- 24 1) Establishment of utilities' first deficit
25 years requires regular filings by the

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utilities followed by Commission orders.
None of the utilities has made a filing to
update its first deficit year since the
first deficit years were last established
in 1996.

2) It is unclear whether determination of a
first deficit year should be based on a
utility's energy needs or capacity needs.
For utilities with capacity deficits, is a
one month, two month, three month or
longer deficit period needed before the
utility is considered deficit? If the
utility can rely on the market during
brief deficit periods, is it still deficit
for avoided cost determinations? If a
utility cannot import power during brief
but very critical periods, is it
considered deficit?

3) When a utility becomes deficit depends on
the conditions assumed for planning.
Water conditions and reserve margins used
for planning are not consistent for all of
the utilities.

4) Load forecasts are one half of the
surplus/deficit equation. Load forecasts

1 are prepared entirely by each utility with
2 little or no oversight. Utilities can
3 easily manipulate their load forecasts to
4 produce a desired result.

5 5) Utilities increasingly rely on market
6 purchases. Should long-term contracts
7 that do not begin for several years be
8 counted as resources in determining first
9 deficit year?

10 6) The difference between "surplus" energy
11 rates and "SAR-based" rates is not as
12 great as it used to be; therefore, there
13 is less justification for two different
14 bases for parts of the avoided cost
15 computations.

16 7) Utilities always plan to be surplus in the
17 short term, at least for as long as it
18 takes to acquire new resources. Having
19 too large a surplus can be as problematic
20 as being deficit. Avoided cost rates
21 should not provide incentives for a
22 utility to increase its surplus period.

23 8) The addition of a PURPA project,
24 particularly if it is less than 10 MW,
25 does not have a large impact on a

1 utility's load-resource balance. The
2 cumulative effect of many PURPA projects
3 could have a significant impact, but the
4 capacity of PURPA projects has
5 historically been small.

- 6 9) If surplus energy rates are retained in
7 the avoided cost analysis, determination
8 of the prices to be used during a
9 utility's surplus period poses some
10 difficulty because of recent extreme
11 variations in market prices.

12 Q. What would be the effect of abandoning those
13 portions of the avoided cost computations related to
14 first deficit year?

15 A. The effect of first deficit year on avoided
16 cost rates depends, of course, on how far into the future
17 the first deficit year is. The further into the future
18 the first deficit year is, the greater the effect on the
19 avoided cost rate. The "surplus" energy rate paid during
20 the surplus period also affects the avoided cost rate.
21 In terms of sensitivity on avoided cost rates, first
22 deficit year probably ranks second to gas price and gas
23 escalation rate.

24 Using Avista as an example, the avoided cost
25 rate (stayed by Commission Order No. 29069) for a 20-year

1 levelized non-fueled contract with a 2002 on-line date is
2 58.24 mills/kWh assuming a first deficit year of 2010.
3 However, if the first deficit year portion of the
4 computations is disabled and all other variables remain
5 unchanged, the comparable avoided cost rate is 75.72
6 mills/kWh. Using my recommendations for changing other
7 variables and computation methods in the spreadsheet, the
8 20-year levelized rate is 46.15 mills/kWh with no first
9 deficit year and 43.04 mills/kWh with a 2010 first
10 deficit year. Thus, if my other recommendations are
11 accepted, abandoning first deficit year has only a minor
12 impact on rates.

13 Q. What avoided cost computation variables do you
14 propose to update?

15 A. I propose that the variables related to the
16 capital costs and the O & M costs of a combined cycle
17 combustion turbine be updated. At the time these
18 variables were first established in 1996, the Commission
19 chose to adopt plant cost data provided by the Northwest
20 Power Planning Council. I believe that the Council is
21 still a reliable source for this information and that we
22 should continue to rely on it. The Council is currently
23 working to prepare its Fifth Power Plan. A draft of the
24 Fifth Power Plan is scheduled to be completed and
25 released for public comment in August, with the final

1 plan being complete in the spring of 2003. A Generating
2 Resources Advisory Committee has been formed to assist
3 the Council in developing cost data for new generation
4 sources. That committee has already developed
5 preliminary cost data for combined cycle plants. The
6 Council staff does not anticipate significant changes to
7 the data prior to completion of the draft plan.

8 I propose that the combined cycle plant cost
9 data developed by the Council's Generating Resources
10 Advisory Committee be used in the avoided cost
11 computations. The Advisory Committee's draft data lists
12 costs as follows:

13	Plant Cost:	\$624/kW
14	Fixed O & M:	\$10.70/kW/yr
15	Variable O & M:	2.8 mills/kWh
16	Heat Rate:	6980 BTU/kWh

17 Because the plant cost adopted by the Advisory
18 Committee is an "overnight" cost, I recommend that an
19 additional amount of \$55/kW be added to the plant cost to
20 approximate AFUDC that would be required if a plant were
21 to be constructed. Thus, I recommend that an "SAR" plant
22 cost of \$679 (year 2000 dollars) be used in the
23 spreadsheet.

24 I also recommend that a slightly higher heat
25 rate be used. My recommended heat rate is 7100 Btu/kWh.

1 Because heat rate increases with elevation, and because
2 most plants built to serve Idaho loads would likely be at
3 a higher elevation than the rest of the Northwest region,
4 I believe such an increase is warranted.

5 I am not proposing any change to the "SAR"
6 plant life (currently 30 years) or to the "SAR" capacity
7 factor (currently 92 percent).

8 Q. Are there any other variables that you
9 recommend be updated?

10 A. Yes, I recommend that the escalation rates used
11 in the spreadsheet be updated based on current forecasts.
12 I recommend that the escalation rates for "SAR"
13 construction costs and the "tilting" rate be set at 2.10
14 percent. This rate is based on the Northwest Power
15 Planning Council's Fifth Power Plan preliminary data
16 which forecasts a 0.6 percent real decrease in combined
17 cycle plant costs. This rate is then adjusted upwards by
18 a 2.70 percent inflation rate from DOE/EIA (See *Annual*
19 *Energy Outlook 2002*, Reference Case Forecast, Table A20,
20 GDP Chain-Type Price Index, Annual Growth 2000-2020). I
21 recommend that the escalation rate for O & M be set at
22 2.70 percent, the same inflation rate from DOE/EIA's
23 *Annual Energy Outlook*.

24 Q. Would you please summarize your proposed
25 changes?

1 A. A summary of my proposed changes is included as
2 Exhibit No. 6.

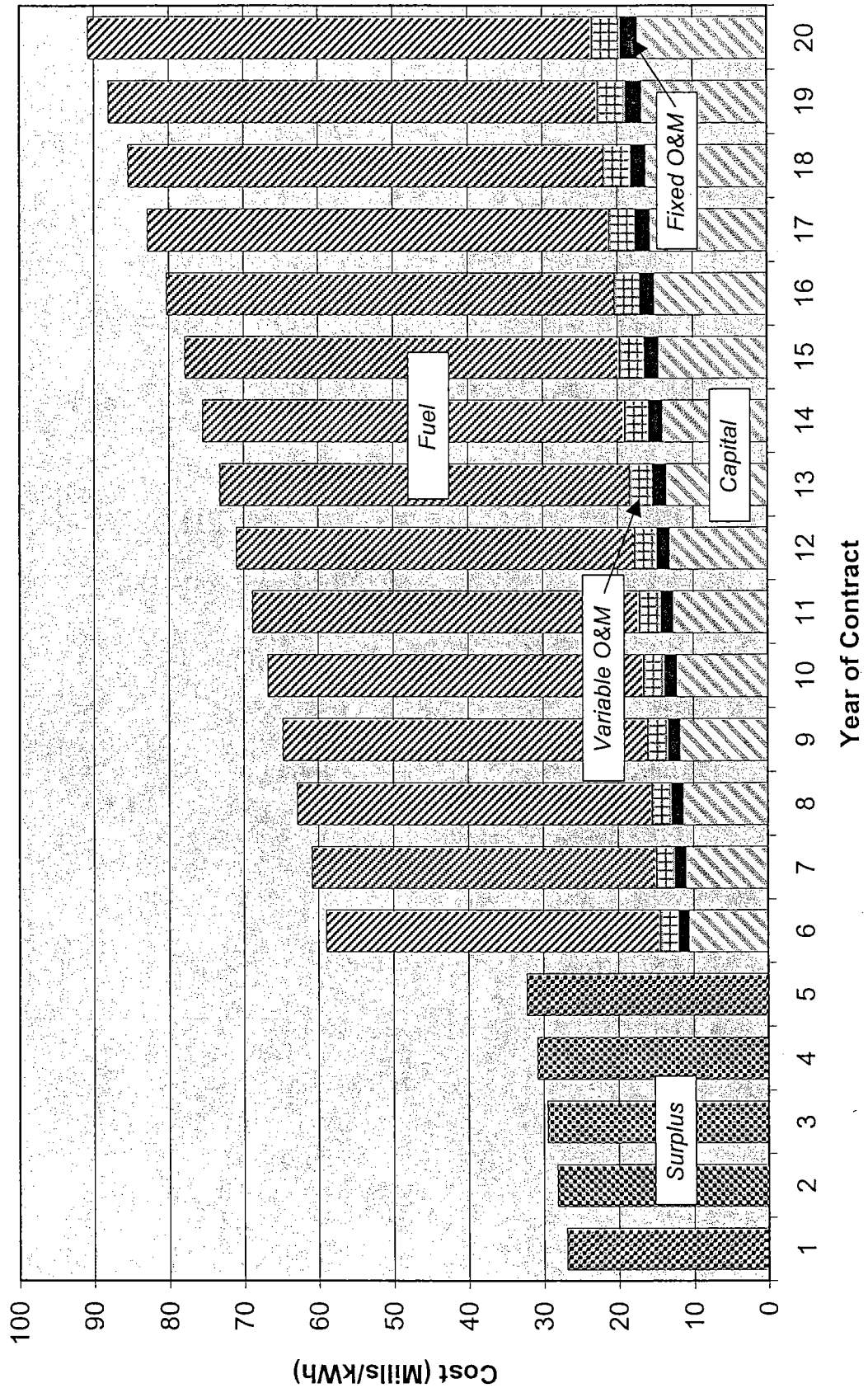
3 Q. How would you proposed changes affect avoided
4 cost rates?

5 A. My proposed changes would decrease the avoided
6 cost rates for each of the three utilities. Exhibit No.
7 7 shows the non-fueled rates that would result if my
8 recommended changes in variables and computation
9 methodology are adopted. Exhibit No. 8 shows the fueled
10 rates that would result.

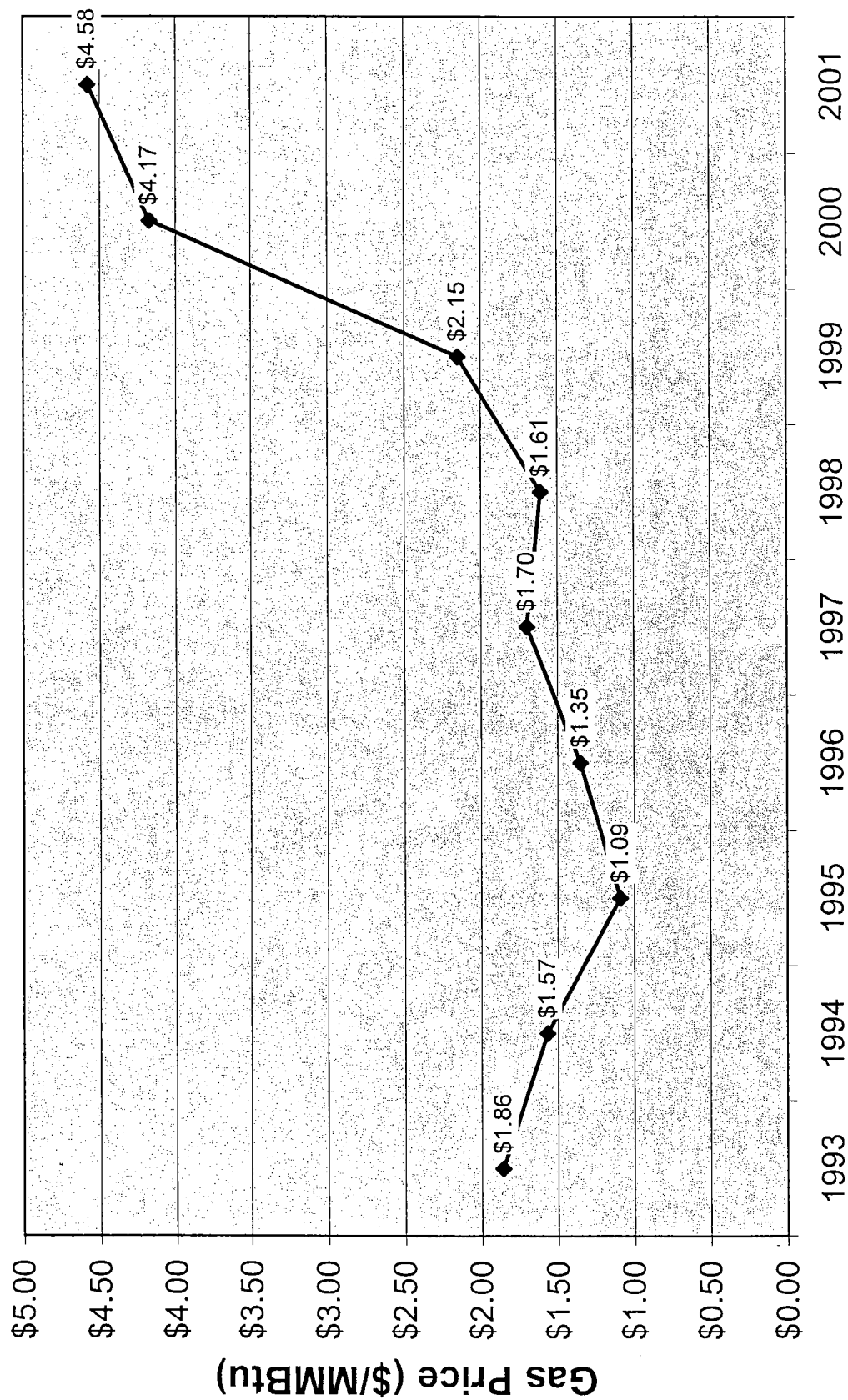
11 Q. Does this conclude your direct testimony in
12 this proceeding?

13 A. Yes, it does.
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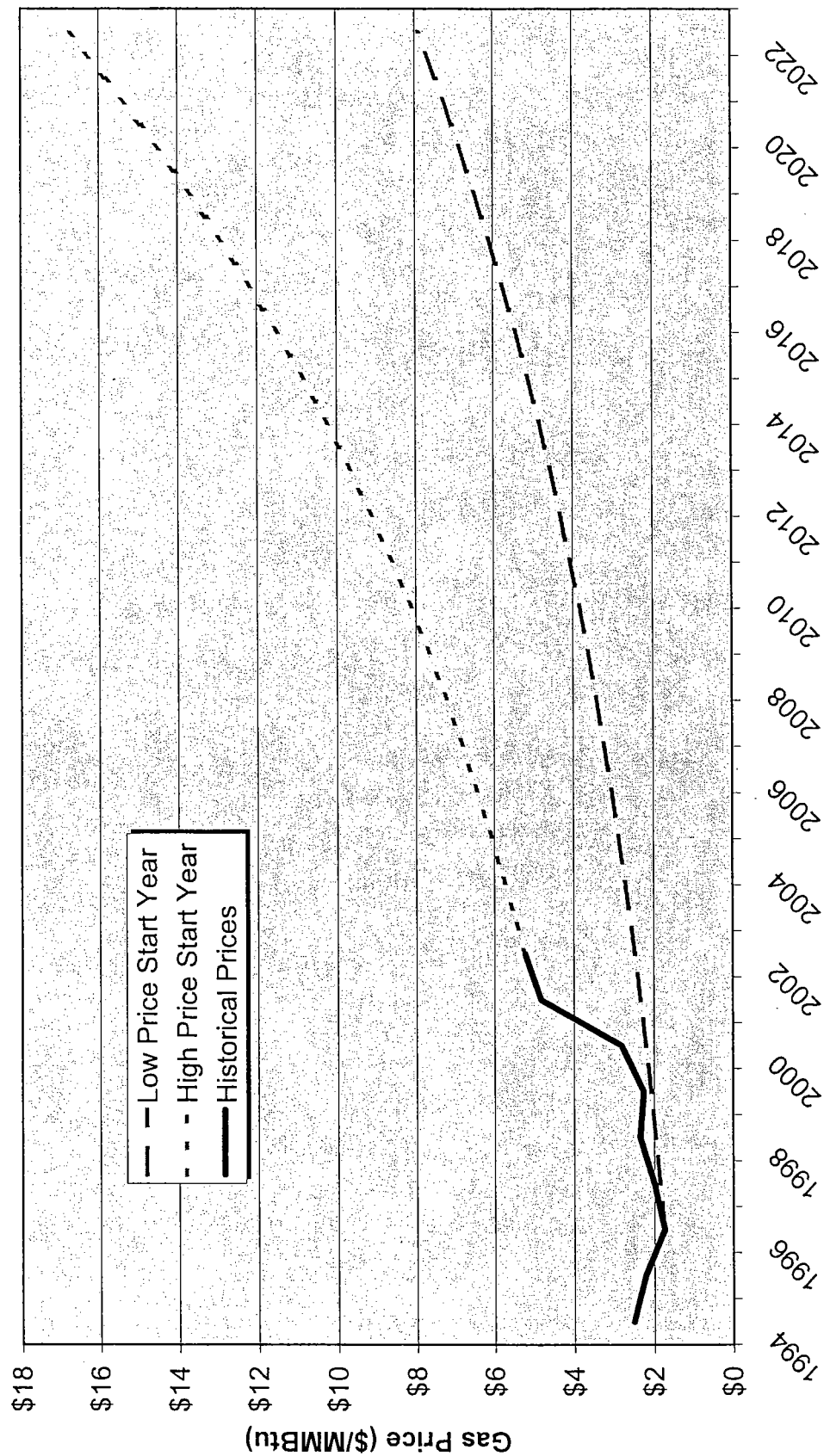
Avoided Cost Components



Average Annual Gas Prices at Sumas

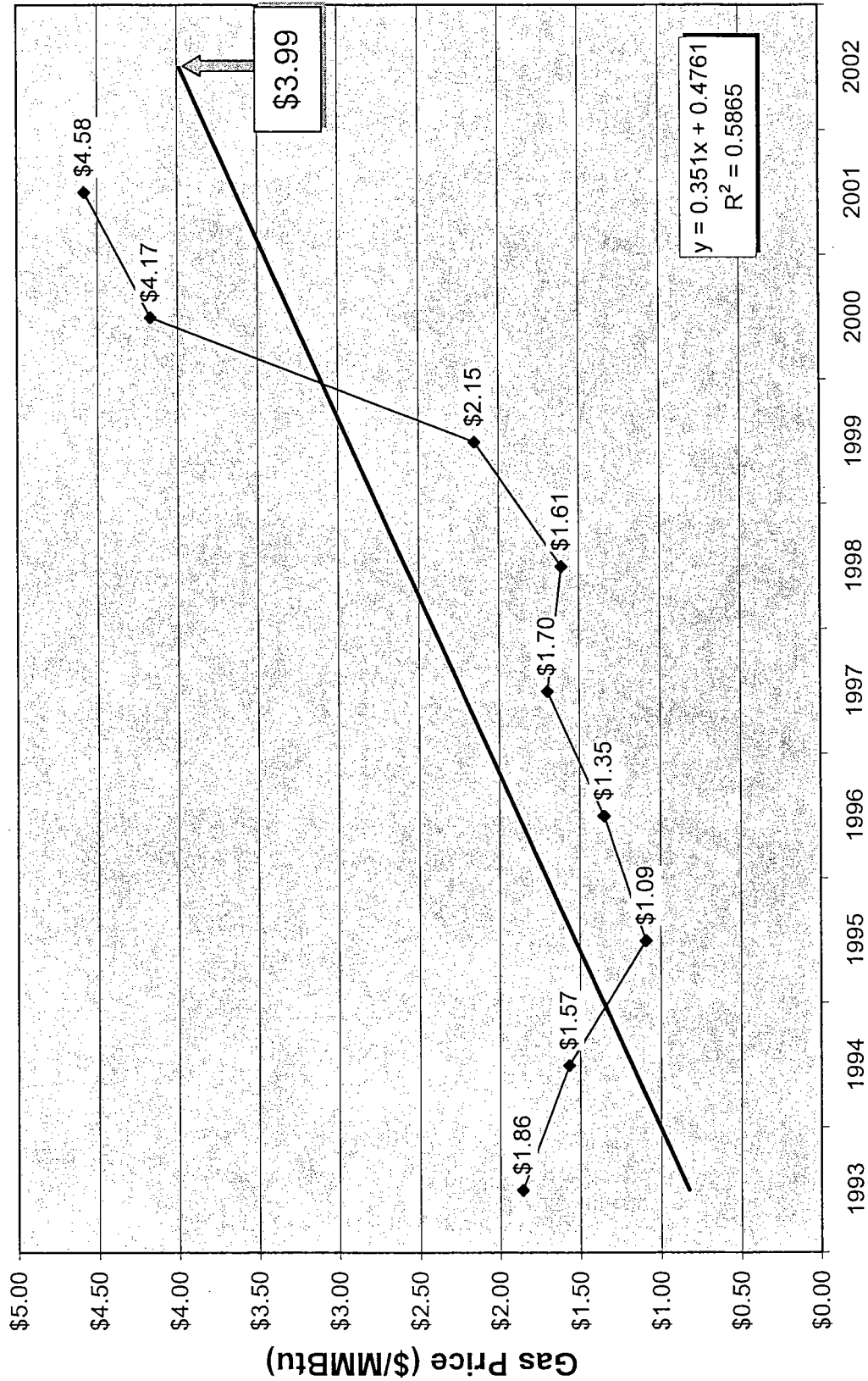


Effect of Starting Gas Price on Avoided Cost Rates

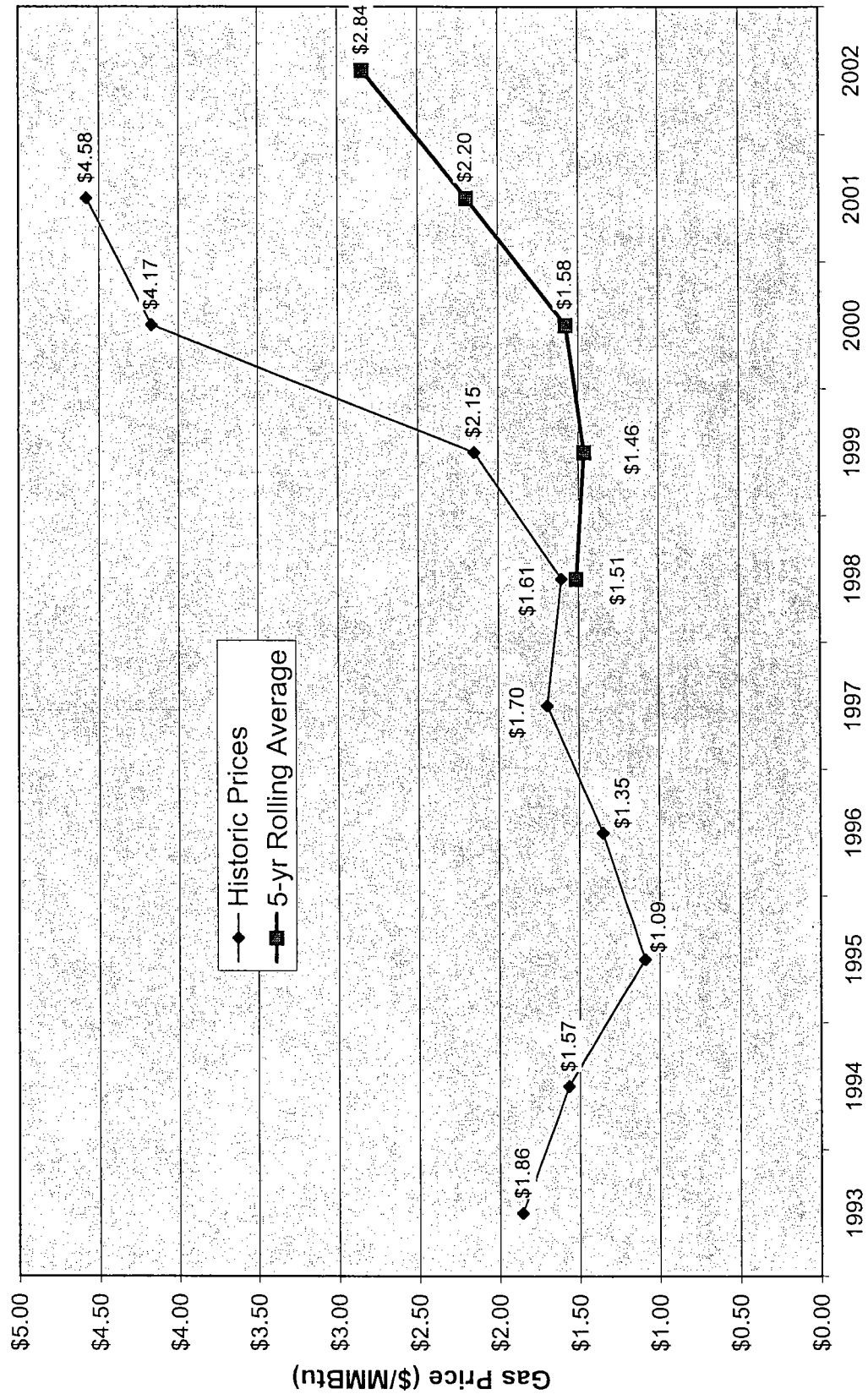


Average Annual Gas Prices at Sumas

Linear Regression



Average Annual Gas Prices at Sumas



SUMMARY OF PROPOSED CHANGES

DATA TYPE	CURRENT VARIABLES	PROPOSED VARIABLES	DATA SOURCE
SURPLUS ENERGY COST (mil/kWh):	19.00	Abandon	NA
SURPLUS COST BASE YEAR:	1994	Abandon	NA
"SAR" PLANT LIFE (YEARS):	30	No Change	NA
"SAR" PLANT COST (\$/kW):	\$667	\$679	Northwest Power Planning Council, Fifth Power Plan, Generating Resources Advisory Committee
BASE YEAR OF "SAR" COST:	1994	2000	Northwest Power Planning Council, Fifth Power Plan, Generating Resources Advisory Committee
"SAR" CAPACITY FACTOR (%):	92%	No Change	NA
"SAR" FIXED O&M (\$/kW):	\$7.43	\$10.70	Northwest Power Planning Council, Fifth Power Plan, Generating Resources Advisory Committee
"SAR" VARIABLE O&M (mil/kWh):	1.65	2.80	Northwest Power Planning Council, Fifth Power Plan, Generating Resources Advisory Committee
CURRENT YEAR FUEL COST (\$/MMBtu):	\$5.23	\$3.19	Staff Proposed 5-Year Rolling Average
BASE YEAR, O&M EXPENSES:	1994	2000	Northwest Power Planning Council, Fifth Power Plan, Generating Resources Advisory Committee
ESCALATION RATE; "SAR" (%):	3.60%	2.10%	Inflation-adjusted Northwest Power Planning Council, Fifth Power Plan, Generating Resources Advisory Committee
ESCALATION RATE; SURPLUS (%):	4.50%	Abandon	NA
ESCALATION RATE; O&M (%):	3.21%	2.70%	DOE/EIA Annual Energy Outlook 2002
ESCALATION RATE; FUEL (%):	6.00%	4.40%	Inflation-adjusted DOE/EIA Annual Energy Outlook 2002
"TILTING" RATE (%):	3.60%	2.10%	Inflation-adjusted Northwest Power Planning Council, Fifth Power Plan, Generating Resources Advisory Committee
HEAT RATE (Btu/kWh):	7350	7100	Staff-adjusted Northwest Power Planning Council, Fifth Power Plan, Generating Resources Advisory Committee

AVISTA UTILITIES
AVOIDED COST RATES FOR NON-FUELED PROJECTS
SMALLER THAN TEN MEGAWATTS
July 1, 2002 - June 30, 2003
mills/kWh

LEVELIZED							NON-LEVELIZED	
CONTRACT LENGTH (YEARS)	ON-LINE YEAR						CONTRACT YEAR	NON-LEVELIZED RATES
	2002	2003	2004	2005	2006	2007		
1	35.38	36.67	38.01	39.41	40.86	42.36	2002	35.38
2	36.00	37.31	38.68	40.10	41.58	43.11	2003	36.67
3	36.61	37.95	39.34	40.79	42.29	43.86	2004	38.01
4	37.23	38.59	40.00	41.48	43.01	44.60	2005	39.41
5	37.83	39.22	40.66	42.16	43.72	45.33	2006	40.86
6	38.43	39.84	41.31	42.83	44.42	46.07	2007	42.36
7	39.03	40.47	41.96	43.51	45.12	46.79	2008	43.93
8	39.62	41.08	42.60	44.17	45.81	47.51	2009	45.55
9	40.21	41.69	43.23	44.83	46.49	48.22	2010	47.25
10	40.79	42.29	43.86	45.48	47.17	48.93	2011	49.01
11	41.36	42.89	44.48	46.13	47.84	49.62	2012	50.84
12	41.93	43.48	45.09	46.76	48.50	50.31	2013	52.74
13	42.49	44.06	45.69	47.39	49.15	50.99	2014	54.72
14	43.04	44.63	46.29	48.01	49.80	51.66	2015	56.78
15	43.58	45.19	46.87	48.62	50.43	52.32	2016	58.92
16	44.11	45.75	47.45	49.22	51.06	52.97	2017	61.14
17	44.64	46.29	48.02	49.81	51.67	53.61	2018	63.46
18	45.15	46.83	48.57	50.39	52.27	54.23	2019	65.87
19	45.66	47.35	49.12	50.96	52.87	54.85	2020	68.38
20	46.15	47.87	49.66	51.51	53.45	55.46	2021	70.99
							2022	73.70
							2023	76.53
							2024	79.47
							2025	82.53
							2026	85.71
							2027	89.02

IDAHO POWER COMPANY
AVOIDED COST RATES FOR NON-FUELED PROJECTS
SMALLER THAN TEN MEGAWATTS
July 1, 2002 - June 30, 2003
mills/kWh

LEVELIZED							NON-LEVELIZED	
CONTRACT LENGTH (YEARS)	ON-LINE YEAR						CONTRACT YEAR	NON-LEVELIZED RATES
	2002	2003	2004	2005	2006	2007		
1	35.84	37.14	38.49	39.89	41.35	42.87	2002	35.84
2	36.46	37.78	39.16	40.59	42.07	43.62	2003	37.14
3	37.08	38.42	39.83	41.28	42.80	44.37	2004	38.49
4	37.69	39.06	40.49	41.97	43.51	45.11	2005	39.89
5	38.30	39.70	41.15	42.66	44.22	45.85	2006	41.35
6	38.90	40.32	41.80	43.33	44.93	46.59	2007	42.87
7	39.50	40.95	42.45	44.01	45.63	47.31	2008	44.44
8	40.09	41.56	43.09	44.67	46.32	48.03	2009	46.08
9	40.68	42.17	43.72	45.33	47.00	48.74	2010	47.78
10	41.26	42.77	44.34	45.98	47.68	49.45	2011	49.56
11	41.83	43.37	44.96	46.62	48.35	50.14	2012	51.40
12	42.39	43.95	45.57	47.25	49.01	50.83	2013	53.31
13	42.95	44.53	46.17	47.88	49.65	51.50	2014	55.30
14	43.49	45.10	46.76	48.49	50.29	52.16	2015	57.37
15	44.03	45.66	47.34	49.10	50.92	52.82	2016	59.53
16	44.56	46.20	47.91	49.69	51.54	53.46	2017	61.77
17	45.08	46.74	48.48	50.27	52.15	54.09	2018	64.10
18	45.59	47.27	49.03	50.85	52.74	54.71	2019	66.52
19	46.09	47.79	49.57	51.41	53.33	55.32	2020	69.04
20	46.58	48.30	50.09	51.96	53.90	55.91	2021	71.66
							2022	74.39
							2023	77.23
							2024	80.19
							2025	83.26
							2026	86.46
							2027	89.79

PACIFICORP
AVOIDED COST RATES FOR NON-FUELED PROJECTS
SMALLER THAN TEN MEGAWATTS
July 1, 2002 - June 30, 2003
mills/kWh

LEVELIZED							NON-LEVELIZED	
CONTRACT LENGTH (YEARS)	ON-LINE YEAR						CONTRACT YEAR	NON-LEVELIZED RATES
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11	41.94	43.47	45.07	46.73	48.45	50.24	2012	51.68
12	42.47	44.03	45.65	47.33	49.08	50.90	2013	53.60
13	43.00	44.58	46.22	47.92	49.69	51.54	2014	55.60
14	43.51	45.11	46.77	48.50	50.29	52.16	2015	57.67
15	44.02	45.63	47.32	49.06	50.88	52.77	2016	59.83
16	44.51	46.14	47.85	49.62	51.46	53.37	2017	62.08
17	44.99	46.64	48.36	50.15	52.02	53.95	2018	64.41
18	45.45	47.13	48.87	50.68	52.56	54.52	2019	66.85
19	45.91	47.60	49.36	51.19	53.09	55.07	2020	69.37
20	46.35	48.06	49.84	51.69	53.61	55.61	2021	72.00
							2022	74.74
							2023	77.59
							2024	80.55
							2025	83.63
							2026	86.84
							2027	90.17

AVISTA UTILITIES
AVOIDED COST RATES FOR FUELED PROJECTS
SMALLER THAN TEN MEGAWATTS
July 1, 2002 - June 30, 2003
mills/kWh

LEVELIZED							NON-LEVELIZED	
CONTRACT LENGTH (YEARS)	ON-LINE YEAR						CONTRACT YEAR	NON-LEVELIZED RATES
	2002	2003	2004	2005	2006	2007		
1	12.73	13.03	13.33	13.63	13.95	14.27	2002	12.73
2	12.87	13.17	13.47	13.79	14.10	14.43	2003	13.03
3	13.01	13.31	13.62	13.93	14.26	14.58	2004	13.33
4	13.15	13.45	13.76	14.08	14.40	14.74	2005	13.63
5	13.28	13.59	13.90	14.22	14.55	14.89	2006	13.95
6	13.41	13.72	14.04	14.36	14.70	15.04	2007	14.27
7	13.54	13.86	14.18	14.50	14.84	15.18	2008	14.60
8	13.67	13.99	14.31	14.64	14.98	15.32	2009	14.94
9	13.79	14.11	14.44	14.77	15.11	15.46	2010	15.28
10	13.92	14.24	14.57	14.90	15.25	15.60	2011	15.64
11	14.03	14.36	14.69	15.03	15.38	15.73	2012	16.00
12	14.15	14.48	14.81	15.15	15.50	15.86	2013	16.37
13	14.26	14.59	14.93	15.27	15.63	15.99	2014	16.75
14	14.37	14.71	15.05	15.39	15.75	16.11	2015	17.13
15	14.48	14.82	15.16	15.51	15.87	16.23	2016	17.53
16	14.59	14.92	15.27	15.62	15.98	16.35	2017	17.94
17	14.69	15.03	15.38	15.73	16.09	16.47	2018	18.35
18	14.79	15.13	15.48	15.84	16.20	16.58	2019	18.78
19	14.88	15.23	15.58	15.94	16.31	16.69	2020	19.21
20	14.98	15.32	15.68	16.04	16.41	16.79	2021	19.66
							2022	20.11
							2023	20.58
							2024	21.06
							2025	21.55
							2026	22.05
							2027	22.56
EFFECTIVE DATE				ADJUSTABLE COMPONENT				
7/1/02-6/30/03				22.65				

The total avoided cost rate in each year is the sum of the annually adjustable component and the fixed component from either of the tables above.

Example 1. A 20-year levelized contract with a 2002 on-line date would receive the following rates:

Years	Rate
1	14.98 + 22.65
2-20	14.98 + Adjustable component in each year

Example 2. A 4-year non-levelized contract with a 2002 on-line date would receive the following rates:

Years	Rate
1	12.73 + 22.65
2	13.03 + Adjustable component in year 2003
3	13.33 + Adjustable component in year 2004
4	13.63 + Adjustable component in year 2005

IDAHO POWER COMPANY
 AVOIDED COST RATES FOR FUELED PROJECTS
 SMALLER THAN TEN MEGAWATTS
 July 1, 2002 - June 30, 2003
 mills/kWh

LEVELIZED							NON-LEVELIZED	
CONTRACT LENGTH (YEARS)	ON-LINE YEAR						CONTRACT YEAR	NON-LEVELIZED RATES
	2002	2003	2004	2005	2006	2007		
1	13.19	13.49	13.80	14.12	14.44	14.78	2002	13.19
2	13.33	13.64	13.95	14.27	14.60	14.94	2003	13.49
3	13.48	13.79	14.10	14.43	14.76	15.10	2004	13.80
4	13.62	13.93	14.25	14.58	14.91	15.26	2005	14.12
5	13.75	14.07	14.39	14.73	15.06	15.41	2006	14.44
6	13.89	14.21	14.54	14.87	15.21	15.56	2007	14.78
7	14.02	14.34	14.67	15.01	15.36	15.71	2008	15.12
8	14.15	14.48	14.81	15.15	15.50	15.86	2009	15.46
9	14.28	14.61	14.94	15.29	15.64	16.00	2010	15.82
10	14.40	14.73	15.07	15.42	15.78	16.14	2011	16.18
11	14.52	14.86	15.20	15.55	15.91	16.28	2012	16.56
12	14.64	14.98	15.33	15.68	16.04	16.41	2013	16.94
13	14.76	15.10	15.45	15.80	16.17	16.54	2014	17.33
14	14.87	15.21	15.56	15.92	16.29	16.67	2015	17.73
15	14.98	15.33	15.68	16.04	16.41	16.79	2016	18.14
16	15.09	15.43	15.79	16.15	16.53	16.91	2017	18.56
17	15.19	15.54	15.90	16.27	16.64	17.02	2018	18.99
18	15.29	15.64	16.00	16.37	16.75	17.14	2019	19.43
19	15.39	15.74	16.11	16.48	16.86	17.25	2020	19.87
20	15.48	15.84	16.21	16.58	16.96	17.35	2021	20.33
							2022	20.80
							2023	21.29
							2024	21.78
							2025	22.28
							2026	22.80
							2027	23.33
EFFECTIVE DATE				ADJUSTABLE COMPONENT				
7/1/02-6/30/03				22.65				

The total avoided cost rate in each year is the sum of the annually adjustable component and the fixed component from either of the tables above.

Example 1. A 20-year levelized contract with a 2002 on-line date would receive the following rates:

Years	Rate
1	15.48 + 22.65
2-20	15.48 + Adjustable component in each year

Example 2. A 4-year non-levelized contract with a 2002 on-line date would receive the following rates:

Years	Rate
1	13.19 + 22.65
2	13.49 + Adjustable component in year 2003
3	13.80 + Adjustable component in year 2004
4	14.12 + Adjustable component in year 2005

PACIFICORP
AVOIDED COST RATES FOR FUELED PROJECTS
SMALLER THAN TEN MEGAWATTS
July 1, 2002 - June 30, 2003
mills/kWh

LEVELIZED							NON-LEVELIZED	
CONTRACT LENGTH (YEARS)	ON-LINE YEAR						CONTRACT YEAR	NON-LEVELIZED RATES
	2002	2003	2004	2005	2006	2007		
1	13.42	13.72	14.04	14.36	14.69	15.03	2002	13.42
2	13.56	13.87	14.19	14.52	14.85	15.19	2003	13.72
3	13.71	14.02	14.34	14.67	15.01	15.36	2004	14.04
4	13.85	14.17	14.49	14.82	15.16	15.51	2005	14.36
5	13.99	14.31	14.64	14.97	15.32	15.67	2006	14.69
6	14.12	14.44	14.78	15.12	15.46	15.82	2007	15.03
7	14.25	14.58	14.91	15.26	15.61	15.97	2008	15.37
8	14.38	14.71	15.05	15.39	15.75	16.11	2009	15.73
9	14.50	14.84	15.18	15.53	15.88	16.25	2010	16.09
10	14.62	14.96	15.30	15.66	16.02	16.39	2011	16.46
11	14.74	15.08	15.43	15.78	16.15	16.52	2012	16.84
12	14.86	15.20	15.55	15.91	16.27	16.65	2013	17.23
13	14.97	15.31	15.66	16.02	16.39	16.77	2014	17.62
14	15.08	15.42	15.78	16.14	16.51	16.89	2015	18.03
15	15.18	15.53	15.89	16.25	16.62	17.01	2016	18.44
16	15.28	15.63	15.99	16.36	16.73	17.12	2017	18.87
17	15.38	15.73	16.09	16.46	16.84	17.23	2018	19.31
18	15.47	15.83	16.19	16.56	16.94	17.33	2019	19.75
19	15.56	15.92	16.28	16.66	17.04	17.43	2020	20.21
20	15.65	16.01	16.37	16.75	17.14	17.53	2021	20.67
							2022	21.15
							2023	21.64
							2024	22.14
							2025	22.65
							2026	23.18
							2027	23.71
EFFECTIVE DATE				ADJUSTABLE COMPONENT				
7/1/02-6/30/03				22.65				

The total avoided cost rate in each year is the sum of the annually adjustable component and the fixed component from either of the tables above.

Example 1. A 20-year levelized contract with a 2002 on-line date would receive the following rates:

Years	Rate
1	15.65 + 22.65
2-20	15.65 + Adjustable component in each year

Example 2. A 4-year non-levelized contract with a 2002 on-line date would receive the following rates:

Years	Rate
1	13.42 + 22.65
2	13.72 + Adjustable component in year 2003
3	14.04 + Adjustable component in year 2004
4	14.36 + Adjustable component in year 2005

CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 22ND DAY OF JULY 2002, SERVED THE FOREGOING **DIRECT TESTIMONY OF RICK STERLING**, IN CASE NO. GNR-E-02-01, BY MAILING A COPY THEREOF, POSTAGE PREPAID, TO THE FOLLOWING:

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